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May 18, 2022

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive
Columbia, South Carolina 29210

In Re: Annual Review of Base Rates for Fuel Costs of Duke Energy Progress, LLC (For Potential Increase or Decrease in Fuel Adjustment)
Docket No. 2022-1-E

Dear Ms. Boyd:

Please find enclosed for filing on behalf of the South Carolina Coastal Conservation League and the Southern Alliance for Clean Energy, the Public Version of the Direct Testimony of Gregory M. Lander in Docket No. 2022-1-E, along with non-confidential Exhibits GLM-1, GLM-2, and GLM-3. The Confidential Version of this testimony has been filed with the Commission under seal along with a Motion for Confidential Treatment.

Please contact me if you have any questions concerning this filing.

Sincerely,

s/Kate Mixson
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PUBLIC VERSION

BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

Annual Review of Base Rates for Fuel Costs of Duke Energy Progress, LLC (For Potential Increase or Decrease in Fuel Adjustment)	)	**DOCKET NO. 2022-1-E**

DIRECT TESTIMONY AND EXHIBITS OF GREGORY M. LANDER

ON BEHALF OF THE
SOUTH CAROLINA COASTAL CONSERVATION LEAGUE AND
SOUTHERN ALLIANCE FOR CLEAN ENERGY

May 18, 2022

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

A. My name is Gregory M. Lander. I am President of Skipping Stone, LLC ("Skipping Stone"). As President, I lead Skipping Stone's Energy Logistics and Energy Contracting practice line. My business address is 83 Pine Street, Suite 101, Peabody, MA 01960.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE") (together, "CCL/SACE").

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I graduated from Hampshire College in Amherst, Massachusetts in 1977 with a Bachelor of Arts degree. In 1981, I began my career in the energy business at Citizens Energy Corporation in Boston, Massachusetts ("Citizens Energy"). I became involved in Citizens Energy's natural gas business in 1983. Between 1983 and 1989, I served as Manager, Vice President, President, and Chairman of Citizens Gas Supply Corporation, a subsidiary of Citizens Energy. I started and ran an energy consulting firm, Landmark Associates, from 1989 to 1993, during which time I consulted on numerous pipeline open access matters, a number of Federal Energy Regulatory Commission ("FERC") Order No. 636 rate cases, FERC Section 4 pipeline general rate cases, pipeline certificate

cases, fuel supply and gas transportation issues for independent power generation projects, producers and industrial end-user matters, international arbitration cases involving renegotiation of pipeline gas supply contracts, and natural gas market information requirements cases (FERC Order Nos. 587 et seq.). In 1993, I founded Trans Capacity LP, a software and natural gas information services company. Since 1994, I have also been a Services Segment board member of the Gas Industry Standards Board ("GISB") and its successor organization, the North American Energy Standards Board ("NAESB"). Between 1994 and 2002, I served as a Chairman of the Business Practices Subcommittee, along with serving on the Interpretations Committee, the Triage Committee, and several GISB/NAESB Task Forces.

I am currently a NAESB Board Member and have served continuously in that capacity since 1997. Skipping Stone acquired Trans Capacity in 1999, and since that time, I have led Skipping Stone's Energy Logistics and Energy Contracting practices, where I have specialized in interstate pipeline capacity issues, information, research, pricing, acquisition due diligence, and planning.

From 1984 to the present, I have maintained a deep familiarity with a wide range of pipeline transportation and contracting issues, beginning with access to pipeline capacity to make competitive sales, resolution of the pipeline take-or-pay contracting regime, pipeline affiliate marketer concerns, restructuring of the pipelines from merchants to transporters and thereafter, and determining what constituted a pipeline capacity "right" for the purposes of

formulating the then newly commenced capacity release and capacity rights trading business process(es). I continue to be involved in nearly all facets of the capacity information and trading business as part of my duties at Skipping Stone. In addition, I have been the lead principal on over fifty pipeline and storage mergers and acquisitions transactions, as well as all pipeline and storage facility expansion projects for which Skipping Stone has been retained by potential purchasers and project sponsors to provide economic due diligence consulting and market analysis.

Q. HAVE YOU FILED TESTIMONY IN REGULATORY PROCEEDINGS BEFORE?

A. Yes. I have pre-filed testimony with the South Carolina Public Service Commission ("Commission") in several annual fuel proceedings, including in Docket Nos. 2019-2-E, 2019-2-E, 2020-1-E, 2020-2-E, and 2020-3-E. I also submitted testimony in 2018 regarding South Carolina Electric and Gas Company's Application for Approval of Merger with Dominion Resources in Docket Nos. 2017-370-E, 2017-305-E, and 2017-207-E. In addition, I have filed testimony and/or reports in several proceedings before FERC and other state public utility commissions, including in North Carolina, Maine, Massachusetts, New York, New Jersey, Missouri, California, the District of Columbia, Virginia, and South Carolina. Please refer to Exhibit GML-1 for my current curriculum vitae and Exhibit GML-2 for a full list of cases in which I have filed direct and surrebuttal testimony.

II. TESTIMONY OVERVIEW

Q. WHAT ISSUES DO YOU ADDRESS IN YOUR TESTIMONY?

A. I will address the degree to which Duke Energy Progress' reliance on fossil-fueled generation, specifically gas-fired generation, exposes ratepayers to significant fuel price risk, and I will provide recommendations to address and potentially mitigate ratepayers' exposure to this cost risk. First, I will briefly summarize the fossil fuel and fuel related costs Duke Energy Progress ("DEP" or "the Company") seeks to recover in this proceeding, with a focus on gas[1] costs.

As is evident from DEP's requested fuel charge adjustment, recent high and increasingly volatile gas prices are heavily impacting DEP ratepayers' electricity costs. I will then discuss some of the strategies utilities adopt to mitigate their customers' exposure to fossil fuel price volatility. I will also highlight some of the measures DEP employed to mitigate its customers' exposure and identify the limits of such strategies, even if they are helpful in the short-term. I will then highlight how fuel-free renewable energy can more effectively help DEP mitigate its customers' exposure to fossil fuel price volatility. Lastly, I will propose certain planning and forecasting recommendations that will help DEP anticipate and respond to future gas price volatility.

[1] As used in this testimony, the term "gas" refers to methane gas produced from wells and transported by pipeline(s) to consumption sites.

III. RELIANCE ON FOSSIL FUELS EXPOSES RATEPAYERS TO RISK

Q. PLEASE BRIEFLY DESCRIBE THE COSTS THAT DEP SEEKS TO RECOVER IN THIS PROCEEDING.

A. The Company is seeking to collect unrecovered fuel and fuel related costs that were incurred from March 1, 2021, to February 28, 2022 ("the Review Period"), as well as estimated costs for the July 1, 2022 through June 30, 2023 billing period ("the Billing Period"). With respect to the Review Period, the Company seeks $40.7 million in under-recovery.[2] One significant factor driving that under-recovery was the increase in gas prices last year when compared to the Company's approved 2021 price projections. From my review and analysis of the Company's discovery responses, the Company's total gas costs in the Review Period were $[redacted][3] or about $[redacted] million per month on average.

The total fossil fuel costs used to calculate the Company's proposed fuel factor are $1.420 billion.[4] The Company's system fuel expense for fuel factor is $1.421 billion, with fossil fuels accounting for 70.92% of the system expense.[5]

[2] Direct Testimony of Dana Harrington at 9:7-8.
[3] These total gas costs were listed in the Company's confidential response to CCL/SACE data request 1-3. These purchases may also include purchases made by Company and re-sold (i.e., not burned). My analysis of CCL/SACE data request 1-33 shows total purchases of [redacted] million dth for the Review Period versus a Company reported "Burn" of 170.3 million dth. However, for the purposes of this testimony, inclusion of such purchase volumes and associated prices does not change any observations or conclusions herein.
[4] Direct Testimony of Dana Harrington, Ex. 2 at 2.
[5] *Id.*

The Company reports a gas burn of 170.3 million dth for the Review Period. With respect to the Billing Period, the Company projects that its gas burn will be 158.3 million MMBtu,[6] which is a projected decrease of 7% over the Company's Review Period burn.

Q. PLEASE SUMMARIZE THE IMPACT TO DEP CUSTOMERS' BILLS IF THE COMMISSION APPROVES DEP'S FUEL CHARGE ADJUSTMENT APPLICATION.

A. DEP's proposed fuel charge adjustment would result in a $10.15 increase to the monthly bill of a residential customer that uses 1,000 kilowatt hours of electricity each month.[7] This is a significant increase at a time when DEP's customers are already saddled with higher grocery bills, gasoline prices, and consumer good costs due to inflation.

Q. WHAT FINANCIAL RISKS DO FOSSIL FUELS POSE TO UTILITY RATEPAYERS?

A. The primary financial risk fossil fuels pose to utility ratepayers is significant price volatility, especially for gas. This volatility is driven by domestic as well as international supply and demand considerations, as I discuss below. Because approved fuel costs are typically passed through to ratepayers and recovered through fuel clause adjustments or "riders," like the one at issue in this proceeding, ratepayers, rather than the utilities, are most exposed to the risk of gas price increases. This is particularly true when utilities are financially

[6] Direct Testimony of Brett Phipps at 9:10-11.
[7] Direct Testimony of Dana Harrington at 22

incentivized to invest in large capital projects, such as new gas plants, on which they earn a profit.

Q: WHY DO YOU ONLY FOCUS ON THE FORECASTED IMPACT OF GAS PRICE SPIKE(S)?

A: From my review of the Company's discovery responses, DEP had [redacted] separate "Deal No." transactions recorded over the course of the Review Period and paid [redacted] different prices under those "deals."[8] Prices change every day and month in the gas industry, which is reflected in the relevant daily and monthly markets. Moreover, as mentioned, ratepayers can be negatively impacted when these prices dramatically increase.

Q. PLEASE DISCUSS THE FACTORS THAT, IN YOUR VIEW, ARE CONTRIBUTING TO THE SIGNIFICANT, RECENT GAS PRICE INCREASES.

A. Fossil fuel prices, especially gas prices, are inherently volatile, and are subject to domestic—and increasingly, international—supply and demand factors. As Company witness Phipps notes in his direct testimony, "growth in export demand, stable production, lower than average storage inventory balances, and seasonal weather demand" have contributed to recent gas price volatility.[9]

Domestically, gas demand is the key driver. Demand for gas for power generation is relatively inelastic because there are few commercially viable substitutes other than aggressive adoption of renewable energy and energy storage. Indeed, even diesel oil is no longer a commercially viable substitute

[8] This data was pull from the Company's confidential response to CCL/SACE data request 1-3.
[9] Direct Testimony of Brett Phipps at 7:21–8:1.

given recent price levels and volatility. There has also been slow adoption of economically viable substitutes for other gas end uses such as heating. Seasonal demand for gas is thus heavily weather dependent, both for heating and power generation. In addition, the gas industry is capital-intensive, and it is difficult for gas suppliers to rapidly ramp up or scale down production in response to market signals.

International demand has also impacted gas prices. In 2021, the U.S. economy, along with many other countries', began to recover from the economic downturn that dominated much of the beginning of the COVID-19 pandemic.[10] Resulting pent up commercial and industrial demand exerted significant upward pressure on gas prices. The U.S. is also projected to become the world's largest exporter of liquefied natural gas ("LNG").[11] As domestic LNG suppliers struggle to construct additional LNG plants and establish additional LNG export terminal capacity, "competition for limited . . . [existing LNG] exports increases,"[12] which increases gas prices.

In turn, financial markets, which operate in both domestic and international markets, struggle to respond to these domestic and international developments, further exacerbating price volatility. Whenever a new demand, supply or dominant political factor is introduced, the response of financial

[10] Scott Divasino, *U.S. natgas volatility jumps to a record as prices soar worldwide*, REUTERS (Oct. 7, 2021), https://www reuters.com/business/energy/us-natgas-volatility-jumps-record-prices-soar-worldwide-2021-10-06/.
[11] Scott Divasino, *U.S. to be world's biggest LNG exporter in 2022*, REUTERS (Dec. 21, 2021), https://www.reuters.com/business/energy/us-be-worlds-biggest-lng-exporter-2022-2021-12-21/.
[12] *Supra* note 3.

markets is often choppy and disparate, as no single "consensus view" can develop when both current and future influences and their magnitude are largely uncertain.

Primarily, among these factors it was release of demand and increased LNG exports during the Review Period that resulted in a "wholesale spot price for natural gas at the Henry Hub in Louisiana [that] averaged $3.89 per million British thermal units (MMBtu) in 2021," which is almost double the 2020 average.[13]

Q. HOW LONG CAN RATEPAYERS EXPECT THESE PRICE INCREASES TO PERSIST?

A. For many reasons, ratepayers can expect these price increases to persist for the foreseeable future. However, for the sake of brevity, I will highlight just three reasons. First, Europe seeks to sharply reduce its Russian gas imports, which will likely mean increased U.S. LNG exports and the construction of additional U.S. export facilities to ensure the increased flow of U.S. LNG exports. Second, Marcellus/Utica producers in Southwestern Pennsylvania have been reluctant to increase production beyond the amount necessary to keep their pipeline capacity contracts full; this is because increasing production beyond that level would exceed their takeaway capacity and would, as a result, depress the prices they receive for the quantity of gas that exceeds their contracted takeaway

[13] U.S. Energy Information Admin., *U.S. natural gas prices spiked in February 2021, then generally increased through October* (Jan. 6, 2022), https://www.eia.gov/todayinenergy/detail.php?id=50778#:~:text=The%20wholesale%20spot%20price%20for,according%20to%20data%20from%20Refinitiv.

capacity. Third, gas producers are using their profits from their gas sales to reduce their debts, pay shareholders dividends, or buy back stock.

IV. RISK MITIGATION STRATEGIES

Q. HOW CAN UTILITIES MITIGATE THEIR CUSTOMERS' EXPOSURE TO FOSSIL FUEL PRICE VOLATILITY?

A. Generally, utilities use hedging to help reduce volatility and to stabilize prices for a portion of their generation fuel supply. There are at least three ways in which a utility can hedge its fuel costs against price volatility. First, a utility could buy a financial instrument, such as a futures contract on a regulated exchange. While these products do not provide the utility or the utility's customers with actual electricity, they do offer, for a limited portion of a utility's purchases, a means of either fixing a utility's purchased energy prices or offsetting the utility's energy costs with revenue from the financial product(s).

Second, a utility could purchase the option to buy a quantity of fuel at a specified price over a designated time period. These transactions can be structured upfront as "costless" or "cost free" products if the utility adopts a collar strategy. Under this scenario, the utility would purchase a "call" option from a counterparty, which would then give the utility the right to purchase a specific quantity of gas at a specific price. The utility would then simultaneously sell a "put" option to that counterparty (a "call" for the counterparty), which would give the counterparty the right to induce the Company to sell that same quantity of gas at a specific price. This collar

strategy is effectively "free" and "costless" when each party agrees to set the floor and ceiling price in return for the same, offsetting payment. Accordingly, this strategy minimizes the utility's exposure to gas price increases. Should gas prices drop below the floor price of the collar, the utility will be required to buy gas at that floor price or pay the counterparty an amount reflecting the difference between the floor price and the market price times the specified quantity. But again, this would involve only a limited portion of the utility's fuel purchases, leaving ratepayers exposed even under the most fortuitous of transactions.

Third, as discussed later in my testimony, a utility could employ "physical hedging" to protect ratepayers against the risk of fuel price volatility by procuring or self-building energy that has no fuel costs, such as wind or solar.

Q. WHAT ARE THE LIMITATIONS OF FINANCIAL HEDGING?

A. A utility cannot economically hedge its future fuel costs below forecasted prices (i.e., the prices the New York Mercantile Exchange ("NYMEX") and other exchanges present for the future period). Another limitation is that a utility must avoid "over-hedging." Said another way, a utility must ensure that it does not hedge a volume that exceeds its projected burn for the same time period the hedge would cover. The potential for over-hedging limits a utility's ability to rely on hedging to mitigate gas price volatility. At bottom, financial hedging

can only reliably *reduce* volatility. It neither eliminates volatility nor permits a utility to secure future gas prices below forecasted, future prices.

Q. WHAT DO YOU CONCLUDE REGARDING THE IMPACT OF THE COMPANY'S HEDGING ACTIVITIES ON ITS INCURRED FUEL COSTS?

A. Based upon my review of the Company's discovery responses, I conclude that those volumes the Company chose to hedge appear to have delivered savings to the Company's customers. However, I also conclude that even if the Company had hedged a greater portion of its purchases, it would not have fully insulated ratepayers from higher prices or volatility for the unhedged gas purchases. Importantly, these savings that were realized were only achieved because prices increased above projections, and they were largely the result of sustained commodity price increases in the Review Period when compared to the prices the sellers of those hedge products forecasted. This means that future savings might not be achieved and even losses would be realized if gas prices were stable at any level or decreased.

To further illustrate this point, when future gas prices are forecasted to be high and continue to be high relative to 2020 prices, which is currently the case, one cannot buy a hedge product below what the NYMEX indicates the price will be in the future. For instance, in mid-May 2020, the July 2022 price on the NYMEX was $2.365. In mid-May 2021, the July 2022 price on the NYMEX was $2.649. In mid-September 2021, the July 2022 price on the NYMEX increased to $3.797, and in mid-April 2022, the July 2022 price on

the NYMEX had almost doubled to $6.839. As of Monday, May 16, 2022, the July 2022 price is $8.0530.

All this underscores the limits of financial hedging, which, it bears repeating, can only stabilize future prices or reduce—but not eliminate—price volatility. Furthermore, as I have explained, a utility cannot economically hedge future prices at prices below market forecasts.

Q: WHAT OTHER ASPECTS OF THE COMPANY'S HEDGING TRANSACTIONS MERIT FURTHER DISCUSSION?

A: In my review of the Company's execution dates of its financial hedge transactions, I found that on average, those cost-less collars that saved greater than $100,000 each were entered into more than 600 days prior to the effective month—so generally, transactions that the Company entered into in 2019.

Q: WHAT IS THE SIGNIFICANCE OF THIS OBSERVATION?

A: In 2019 and up through May—and even to some extent September—of 2021, gas pricing in the U.S. and international gas markets was rather low, due in large part to depressed demand associated with the COVID-19 pandemic. The timing of those 2019, 2020 and 2021 hedge transaction executions and the value ratepayers received from them reflect the state of the gas market at the time of the executions. Put simply, the significance of these dates is that the 2020 hedges for 2021, along with the "costless collar" transactions for 2021, benefitted ratepayers precisely *because* gas prices increased. Hence, for the portion of the gas supply that the Company hedged, ratepayers benefitted but, for the roughly [redacted]% of supply that was purchased at the market price at the time

(i.e., without offsetting hedges), ratepayers will now have to pay higher energy prices for electricity to recoup not only under-recoveries but also higher forecasted prices in the future. In short, fortuitous hedging helps, but it cannot entirely eliminate ratepayer exposure to rising and/or volatile fossil fuel prices, especially gas prices. As I discuss below however, a utility can potentially secure future energy prices through a physical hedging approach that both eliminates volatility and delivers lower prices than the NYMEX's current gas prices.

Q. YOU PREVIOUSLY DISCUSSED THE USE OF PHYSICAL HEDGING PRODUCTS TO MINIMIZE CUSTOMERS' EXPOSURE TO FOSSIL FUEL PRICE VOLATILITY. PLEASE ELABORATE.

A. Wind energy and solar energy have no fuel price—the wind and sunshine are free. Once wind turbine and solar panel investments have been made, the only variable costs are operations and maintenance costs, which can be fixed by contract. Conversely, investments in new gas-fired generation only fix capital costs and possibly maintenance. They do not fix energy costs and instead subject ratepayers to potential pass-throughs of fuel costs that are subject to market vagaries.

With respect to renewable generation, which has zero fuel costs, the U.S. Energy Information Administration ("EIA") released a 2022 report that estimates that the Levelized Cost of Energy ("LCOE") for utility scale wind, including tax credits, is $26.15 per MWh.[14] For utility scale solar, the estimated

[14] U.S. Energy Information Admin., *Levelized Costs of New Generation Resources*, Annual Energy Outlook 2022 at 17 (2022), https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf.

LCOE, including tax credits, is $26.69 per MWh. Without tax credits, the LCOE for wind is $34.92 per MWh and $33.07 for solar. These estimates do not take into account financing costs, or utility returns in the event a regulated utility is making these investments. Nevertheless, these LCOE for wind and solar compare quite favorably to the average cost per MWh for gas-generated energy, which over the January 2023 to January 2033 period has an estimated average cost to the Company of $36.70/MWh.[15] Moreover, the LCOE for wind and solar are not subject to the same price volatility. These data points are presented in Figure GML-1, below.

[15] I calculated this figure by taking the NYMEX closing prices on May 13, 2022 for the period of January 2023 through January 2033 and averaging them. I then used the price difference between the average price per dth of the Company's delivered gas and the gas Company purchased "into the pipe" or $[redacted] per dth and added this difference (as an adder) to the NYMEX average price for only the estimated delivered gas portion of the Company's purchases (i.e., [redacted]%). Then, for this [redacted]% of the Company's purchased gas on a delivered basis, I multiplied the NYMEX price combined with the adder by 7.2 (an estimated annual average heat rate for the Company's baseload gas fired generation facilities) and multiplied that number by [redacted]%. Then for the [redacted]% of Company's purchased gas "into the pipe", I multiplied the NYMEX price (without the adder) by 7.2 and multiplied that number by [redacted]%. I then added those two amounts to get an estimated 100% of purchased gas to generate a MWh cost of $36.70/MWh on average from January 2023 through January of 2033.

Figure GML-1 – Comparison of Gas, Utility Scale Wind, and Utility Scale Solar Costs[16]

	Average Cost	LCOE – Without Credits	LCOE – With Tax Credits
Utility Scale Wind	N/A	$34.92/MWh	$26.15/MWh
Utility Scale Solar	N/A	$33.07/MWh	$26.69/MWh
Methane Gas	$36.70/MWh	N/A	N/A

Q. HAS THE COMMISSION RECOGNIZED THE VALUE OF USING RENEWABLES AS PHYSICAL HEDGING PRODUCTS?

A. Yes. In Order No. 2015-194, the Commission included a definition of the "fuel hedge" value in the Net Energy Metering Methodology which states that the "Component includes the increases/decreases … cost or benefit associated with serving a portion of its load with a resource that has less volatility due to fuel costs than certain fossil fuels."[17] In my opinion, this language recognizes that resources with no fuel costs can provide a hedge benefit against fossil fuels.

In fact, DEP calculates a value for the fuel hedge benefits of renewables in its avoided cost proceedings in North Carolina.[18] The North Carolina Utilities Commission has also recognized that renewable energy resources provide fuel hedging value:

[16] These figures are drawn from the EIA's 2022 LCOE of new generation resources, *see* https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf, and my calculations, *see* supra note 8.
[17] Order No. 2021-194, Exhibit 1 at 2.
[18] DEP Response to CCL/SACE Data Request 1-17, attached as Exhibit GML-3.

> Renewable generation provides fuel price hedging benefits because a utility's purchase of energy from a [Qualifying Facility] reduces the amount of fuel the utility otherwise would need to purchase. In doing so, the Commission acknowledged that purchasing solar power can be seen as the equivalent of buying natural gas forwards. . . . the Commission finds that the evidence in this proceeding demonstrates again that there are fuel price hedging benefits associated with renewable generation. Purchases from QFs are substitutes for the purchase of fuels and reduce the amount of fuel that must be purchased and, therefore, the costs that the utilities would incur toward fuel procurement. . . . The Commission agrees with Cube Yadkin that the value of the hedge is to insulate ratepayers from fuel volatility, and that the hedge value is appropriate for inclusion in avoided cost rates.[19]

Although the North Carolina Commission reached these findings in the context of determining utility avoided costs, the same logic applies here to the value that physical hedges, either from the procurement or construction of renewable energy resources, provide by supplying fuel-free power to DEP ratepayers.

Q. COULD DEP HEDGE A PORTION OF ITS ENERGY NEEDS BY PROCURING OR SELF-BUILDING WIND AND SOLAR GENERATION IN LIEU OF GAS GENERATION?

A. Yes. Wind and solar resources can not only fix the costs for a large portion of the Company's energy requirements, but also immunize the Company and its customers from gas price increases and spikes, which, as summarized above, can be impacted by a variety of factors. To serve as effective fuel price hedges, of course, the wind and solar energy must either be purchased on a fixed price

[19] *Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, N.C. Utils. Comm'n Docket No. E-100, Sub 158, (April 15, 2020).

basis or generated by utility-owned facilities. Under either circumstance, the "fuel" costs are fixed at zero.

In short, in addition to providing capacity, energy, and other services to the electric grid, renewables provide hedging value, and the Commission should encourage the Company to obtain as much of that value as possible as part of the Company's comprehensive hedging strategy.

Annual fuel cost recovery proceedings, which evaluate pass-throughs of past costs and forecasts of future costs to customers, serve as a natural way to evaluate the prudence of additional investment in renewables with hedging value and assess the limits of the Company's current hedging strategies.

Q. YOU MENTIONED EARLIER THAT THERE WAS SOMETHING "MISSING FROM THE COMPANY'S FUEL COST PLANNING AND FORECASTING PRACTICES." PLEASE ELABORATE.

A: An important element that is missing from the Company's fuel cost planning and forecasting practices is an additional forecast that measures and projects the impact on consumer bills of future fuel price spikes(s) if such spike(s) were to occur in the billing period used to establish the fuel factor.

As background, the Company's fuel factor is based upon the net effect of two elements. One is the amount of over or under recovery during the Review Period. At a high level, the second element is the forecasted set of prices and purchases (i.e., forecasted total cost of fuel) for the billing period. The sum of these two numbers, again at a high level, is then divided by the

number of forecasted sales in the billing period to calculate a fuel factor that is applied to each sale(s) unit.

The purpose of my recommended forecast would be to provide the Commission with a preview of the potential impact of such projected fuel price spike(s) on the second element. This forecast would help inform the Company's strategy to reduce or mitigate its customers' exposures to future, projected price spikes.

Q. WHAT ARE YOUR SPECIFIC RECOMMENDATIONS TO IMPROVE DEP'S FUEL COST PLANNING AND FORECASTING PRACTICES?

A. First, I recommend that Commission require the Company to file in annual fuel proceedings an additional forecast that illustrates the impact of potential gas fuel price spikes on the Company's forecasted fuel costs. Specifically, in order to forecast the impact of periodic gas fuel price spikes on the Company's fuel projections, the Company should prepare a gas price forecast that incorporates the frequency, duration, and magnitude of prior upward fuel price departures of 15% or greater from the average price and use historical data to inform its projections of the frequency, duration, and magnitude of future price spikes. For instance, the Company could use trailing ten-year price spikes as the source data. This additional forecast will allow the Company to evaluate the potential impacts of these price spikes on customers if they were to recur.

I further recommend that the Commission require the Company to provide, with each annual fuel filing, the Review Period's month by month forecasts (i.e., made prior to the Review Period); the month by month forecasts

should include both the average price forecast (i.e. the primary projection used to forecast costs over the billing period) and additional forecast that illustrates the impact of potential price spike(s). This would enable comparisons (i.e., variances) to be made between actual prices of the Review Period as reported in that proceeding and the two forecasts and would help the Company and the Commission determine whether these variances were because the average prices varied or because prices were volatile. Tracking this data would in turn help the Company and Commission evaluate the Company's volatility mitigation strategies. Comparing actual prices to the primary projections used to estimate fuel costs over the billing period would also shed light on the accuracy or inaccuracy of the Company's primary forecast.

V. CONCLUSIONS AND RECOMMENDATIONS

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS WITH RESPECT TO DEP'S REQUESTED FOSSIL FUEL AND FUEL-RELATED COSTS.

A. The Company's under-recovery of its fuel and fuel-related costs can be attributed in part to its gas price projections being lower than the actual market prices during the Review Period. These under-projections, among other things, will have significant bill impacts for DEP ratepayers, and are partially responsible for the estimated $10.15 increase to DEP monthly residential bills for residential customers using 1,000 kWh per month, assuming the Commission approves the Company's fuel charge adjustment application.

While all fossil fuels are inherently volatile, gas is particularly so due to domestic and international demand and supply considerations. Given this, financial hedging strategies can only mitigate customer exposure to this volatility in the short term, but cannot reliably reduce fuel prices over the long-term (i.e., over the period covered by investments in fuel-free generation).

To further mitigate customer exposure to fossil fuel price volatility, I would recommend that DEP forecast the impact of periodic deviations of at least 15% or greater from average gas prices on customer bills. Specifically, I would propose that the Company use trailing ten-years data of gas price spike(s) to inform its projections on the frequency, duration, and magnitude of future price spike(s). In future fuel charge adjustment proceedings, the Company should provide month by month fuel price forecasts that include the average gas price forecast and a "15%" or greater price spike forecast. This strategy would help the Company plan its response to future gas price volatility and help the Commission evaluate the Company's volatility mitigation strategies.

Lastly, the Company should use wind and solar energy to the fullest extent possible to hedge against fossil fuel price volatility. Depending on how these assets are structured, wind and solar energy facilities can supply a large portion of the Company's generation needs at a fixed cost, with little to no exposure to fossil fuel price volatility.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that the parties listed below have been served via first class U.S. Mail or electronic mail with a copy of the *Direct Testimony of Gregory M. Lander* of the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy.

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This 18th day of May, 2022

s/Kate Mixson